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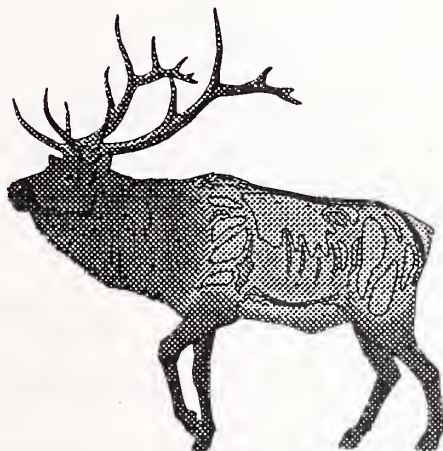
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ENVIRONMENTAL

ASSESSMENT

DESERT MOUNTAIN ELK RANCH GAME FARM

NOVEMBER 1998



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Region 1
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SUMMARY

ENVIRONMENTAL ASSESSMENT PROPOSED DESERT MOUNTAIN ELK RANCH GAME FARM

INTRODUCTION

Montana Fish, Wildlife & Parks (FWP) is required to perform an environmental analysis in accordance with the Montana Environmental Policy Act (MEPA) for each proposal for projects, programs, legislation, and other major actions of state government significantly affecting the quality of the human environment (Administrative Rules of Montana [ARM] 12.2.430). FWP uses environmental assessments (EAs) in the game farm licensing process to identify and evaluate environmental impacts of a proposed game farm. EAs also determine whether the impacts would be significant and whether, as a consequence, FWP would perform a more detailed environmental impact statement (EIS).

When preparing an EA, FWP reviews environmental impacts of the Proposed Action, impacts of the No Action Alternative, and impacts of other alternative actions which include recommended and/or mandatory measures to mitigate the project's impacts. A mitigated EA includes alternatives with enforceable requirements (stipulations) which reduce impacts of the Proposed Action. The EA may also recommend a preferred alternative for the FWP decision maker.

This EA is prepared for a proposed game farm (Desert Mountain Elk Ranch) near Coram, Montana. Based upon its review of the Desert Mountain Elk Ranch game farm application, FWP has prepared a mitigated EA.

OBJECTIVES

This EA has been prepared to serve the following purposes in accordance with FWP MEPA rules (ARM 12.2.430):

- ensure that FWP uses natural and social sciences in planning and decision making;
- to be used in conjunction with other agency planning and decision-making procedures to make a determination regarding the Proposed Action;
- assist in the evaluation of reasonable alternatives and the development of conditions, stipulations, and modifications to the Proposed Action;
- determine the need to prepare an EIS through an initial evaluation and determination of the significance of impacts associated with the Proposed Action;

- ensure the fullest appropriate opportunity for public review and comment on the Proposed Action; and
- examine and document the effects of the Proposed Action on the quality of the human environment.

PUBLIC PARTICIPATION

Public involvement in the EA process includes steps to identify and address public concerns. The Draft EA will be available for public review and comment from November 4, 1998 until 5 pm November 25, 1998 from the Region 1 FWP office in Kalispell (490 North Meridian Road; phone 406-752-5501). Comments regarding this EA should be submitted to FWP at the location specified below.

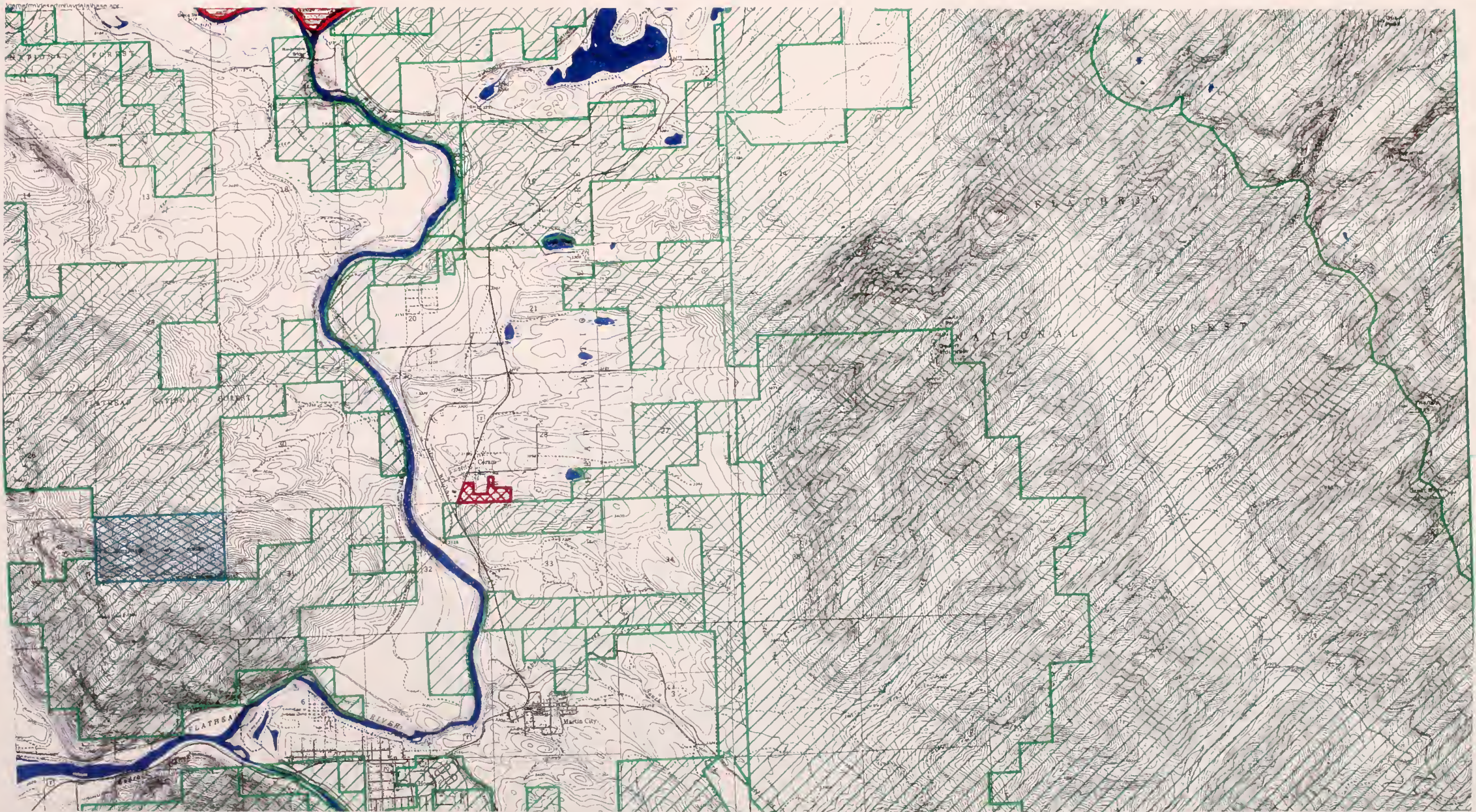
Mr. Perry Brown
Region 1 Game Warden
Fish, Wildlife & Parks
1325 South Nucleus
Columbia Falls, Montana 59912
phone (406) 892-3996

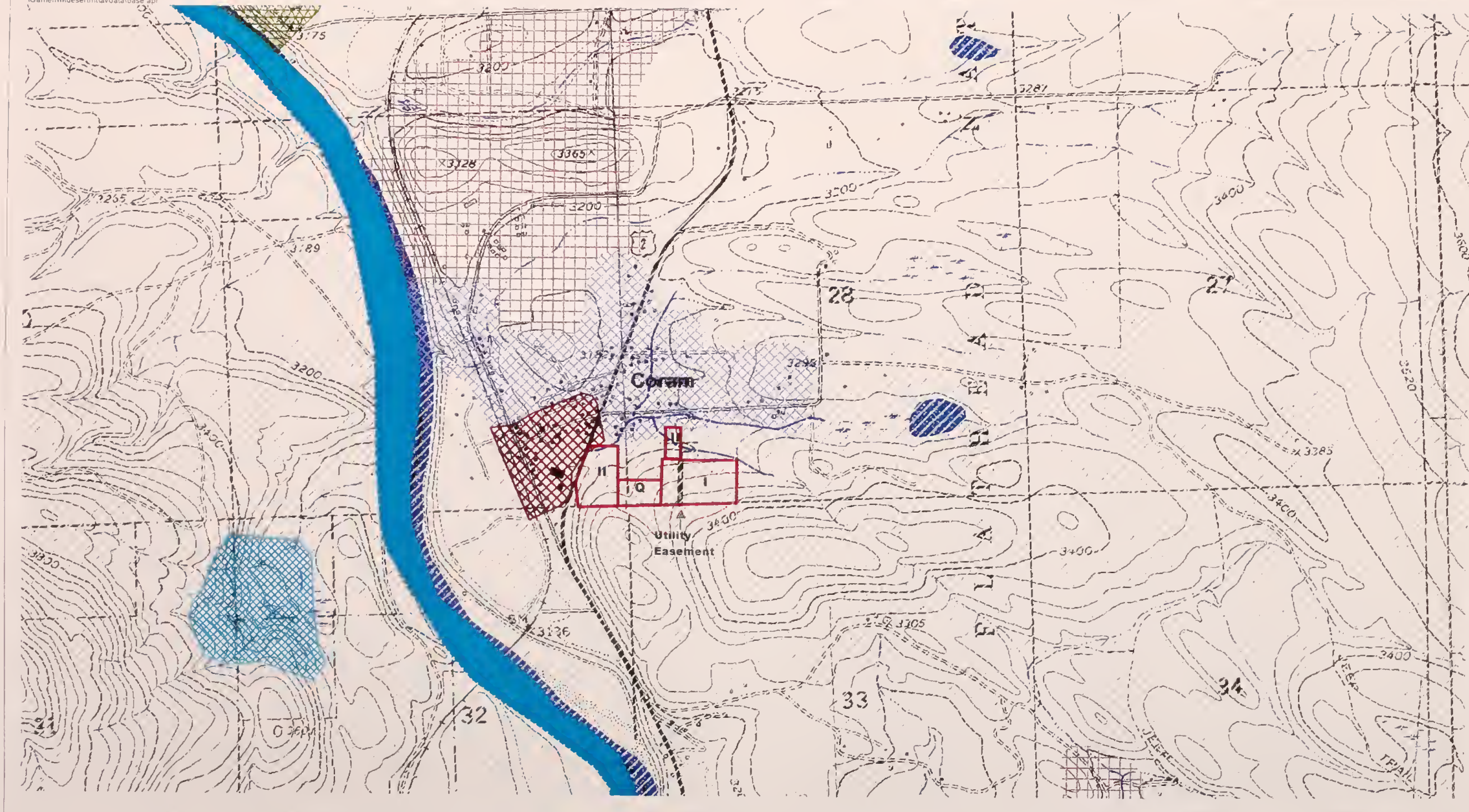
PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

FWP received an initial application dated June 22, 1998 from Steve Kvapil and Barbara Wuertz to construct the Desert Mountain Elk Ranch Game Farm in Flathead County, Montana. FWP personnel discussed several issues with the applicants and incorporated clarifications in a letter to the applicants dated August 19, 1998. The clarifications are: (a) Phase I of the game farm construction would consist of 18 acres; (b) maximum number of elk for Phase I is 10 to 15 mixed age/sex; and (c) there will be no public shooting of elk on the game farm site. The proposed Desert Mountain Elk Ranch Game Farm (Figure 1) would be located immediately south of Coram, Montana. The applicants live within the perimeter of the proposed game farm site, which is crossed by a utility easement. The Proposed Action consists of two phases: Phase I consists of placing up to 15 elk on approximately 18 acres, and Phase II consists of adding up to 45 additional elk after enlarging the game farm by 15.5 acres. The entire proposed game farm, therefore, would consist of up to 60 elk on 33.5 acres.

Phase I includes the quarantine and handling facilities and the pasture forming the southeast portion of the game farm (Figure 2). Phase II includes the west and north pastures. The purpose of the game farm is to provide breeding stock, meat and antler production. There would be no fee shooting by the public at the game farm. Elk initially released into the proposed game farm would come from the Sun River Game Farm in Vaughn, Montana; additional elk may be obtained from other game farms.





- | | |
|----------------------|--------------------------------------|
| Proposed Game Farm | Q - Quarantine and Handling Facility |
| Residential | I - Phase I |
| Mixed Urban/Built-Up | II - Phase II |
| Crop/Pasture | |
| Grass Rangeland | |
| Evergreen Forest | |
| Mixed Forest | |
| Stream/Canal | |

Note: Land Use Data Derived From
Montana Public Lands
U.S. Bureau of Land Management
1:250,000 Scale Maps.
Topographic Base Derived From
U.S.G.S. 1:24,000 Scale Maps.

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Land Use and Land Cover
Proposed Game Farm EA
Desert Mountain Elk Ranch
Coram, Montana
Figure 2

The applicants would sell and dispose of game farm elk in accordance with Montana game farm and disease control requirements stipulated in Montana statute and administrative rules. Fence construction would be in accordance with requirements of FWP under ARM 12.6.1503A, and proposed changes to these rules. Fencing would consist of 8-foot high, 6-inch mesh, high tensile big game fencing supported by 11-feet long, 2^{3/8}-inch steel pipe set 3 feet into the soil and spaced at 20 feet intervals. Corner posts would be 2^{7/8}-inch steel pipe set 3 feet into the soil and would be braced. Gates in and around the handling facility would be solid wood. The remaining gates would be 8 feet high and consist of a 2-inch diameter metal tubing frame with 6-inch mesh fencing. All gates would have no more than three inches of ground clearance and each would have one latching and one locking device.

The residential area and driveway would be fenced out of the game farm. Five gates would adjoin the residential area. The fence along the south side of the property adjoining U.S. Forest Service land would follow an old logging road. The fence would be installed on the north side of the road bed to exclude the road from the game farm. One gate would be located in this south fence at the utility easement. Access to the easement by utility crews would be controlled and occur only while the landfarm operators or a representative are at the site. One gate would also be located in the east fence of the north, Phase II pasture. The quarantine facility and handling pens would be constructed according to the standards and approval of the Montana Department of Livestock (DoL).

ALTERNATIVES

One alternative (No Action Alternative) is evaluated in this EA. Under the No Action Alternative, FWP would not issue a license for the Desert Mountain Elk Ranch Game Farm as proposed. Therefore, no game farm animals would be placed on the proposed game farm area. Implementation of the No Action Alternative would not preclude other activities allowed under local, state and federal laws to take place at the game farm site.

PURPOSE AND NEED OF THE PROPOSED ACTION

The Desert Mountain Elk Ranch Game Farm would be a private commercial enterprise to provide breeding stock, meat and antler production. No fee shooting of game farm elk would be conducted.

ROLE OF FWP AND DoL

FWP is the lead agency in preparing this EA for the proposed project. This document is written in accordance with the Montana Environmental Quality Council (EQC) MEPA Handbook and FWP statutory requirements for preparing an EA under Title 75, Chapter 1, Part 2 Montana Code Annotated (MCA) and FWP rules under ARM 12.2.428 et seq.

FWP shares regulatory responsibilities for new and expanding game farms with the DoL. The DoL is responsible for regulating the health, transportation and identification of game farm animals. During the application process, all quarantine area plans and specifications are submitted to the DoL for approval and

inspection of the proposed quarantine facility. No game farm licenses are issued without such approval and inspection.

AFFECTED ENVIRONMENT

The proposed Desert Mountain Elk Ranch Game Farm is located immediately south of residential properties in the townsite of Coram, Montana (Figure 2). The property is bordered on the west by commercial properties along Highway 2, on the south by National Forest land (Figure 1), and on the east by forested, private land (Figure 2). Highway 2 is the western gateway to Glacier National Park, which is located a few miles north of Coram. The Middle Fork of the Flathead River is located about 2,000 feet west of the western proposed fence line. Most of the surrounding mountains are forested and managed by the Flathead National Forest.

The proposed game farm would be developed in two phases to eventually include up to 60 elk on approximately 33.5 acres. The property is currently used for residential purposes on about 3 acres with the remaining acreage undeveloped forest land (90%) and tame pasture (10%). The site includes a dirt road and a utility easement. The easement contains overhead electric lines of the Glacier Electric Cooperative, and also grants rights to the Montana Power Company and American Telephone and Telegraph.

LAND RESOURCES

The proposed game farm lies on the northern slope of an east-west trending ridge and rises from an elevation of about 3,200 feet at the bottom of the ridge to about 3,400 feet midway up the slope at the National Forest boundary. The steepest slopes at the site approach 15 degrees, but the majority of the slopes are long gentle runs of 5-10 degrees.

Soils at the site are classified as Andeptic Cryoboralfs and Dystric Eutrochrepts. Andeptic Cryoboralfs are formed on glacial moraines and are present on the moderate sloping hillside present in the southern half of the proposed game farm. The silt loam surface layer of this soil is underlain by very gravelly silt loam that contains 35 to 60 percent rounded rock fragments. The Dystric Eutrochrepts are formed on kames, kettles, or terraces and are present on the gentle slopes at the base of the hill and the neighboring residential area. This soil and substrata contain 50 to 80 percent rounded rock fragments. Both these soils are mantled by volcanic ash influenced loess and are highly productive if soil surface layers are not displaced or removed.

WATER RESOURCES

Runoff from the proposed game farm site flows north to an unnamed intermittent drainage which flows eastward to a ditch between Highway 2 and the west boundary of the site (Figure 2). The ditch ultimately discharges to the Middle Fork of the Flathead River which is located approximately 2,000 feet to the west. A small wetland area (0.1 acre) is located in the intermittent drainage in the north Phase II pasture

immediately downgradient of a culvert beneath the driveway to the Kvapil residence. No portion of the proposed game farm would lie in a 100-year floodplain.

Potable water for the game farm elk would be obtained from the existing municipal water supply to the site. Well records on-file with the Montana Department of Natural Resources and Conservation (DNRC) indicate that there are 3 wells within ¼-mile of the site and 20 wells within 1 mile. An additional well may be located at the neighboring residence located immediately north of the Phase I pasture. Wells in the area range from 40 to 120 feet deep, with static water levels ranging from 10 to 100 feet below ground surface.

VEGETATION RESOURCES

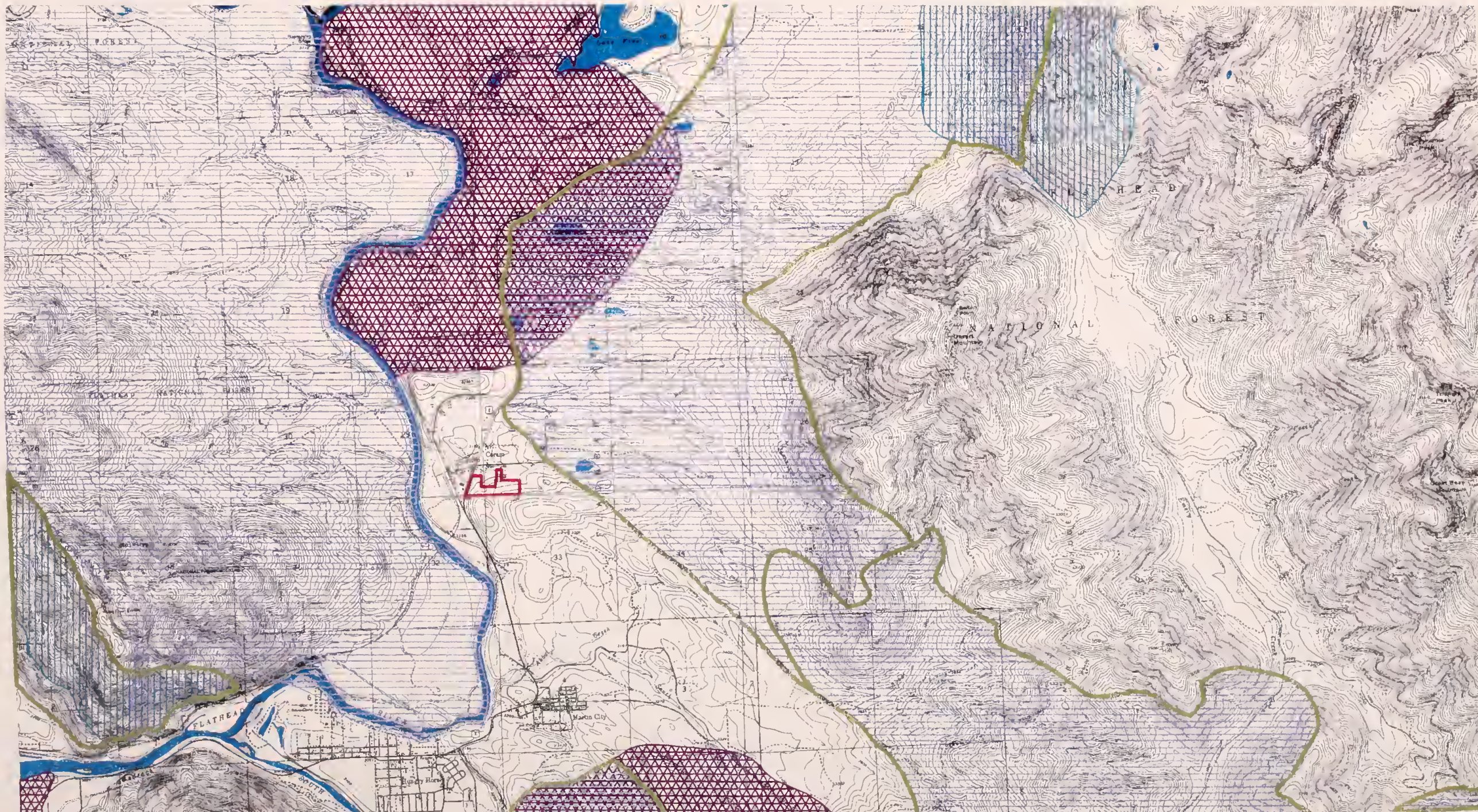
Forested areas of the site have various logging histories from old to current logging efforts. In general, most of the trees within the proposed game farm are young and less than 12-inches in diameter. Herbaceous vegetation productivity within the forested habitat is variable depending upon degree of canopy closure, and probably ranges from a couple hundred pounds per acre to an estimated 1,000 pounds per acre in recently cleared sites. Productivity of the tame pasture is estimated at 1,000 to 1,500 pounds per acre. Average annual forage productivity of the entire game farm site is estimated at 19,500 pounds.

The forested habitat in this area is comprised of Douglas fir, lodgepole pine, western larch, Engelmann spruce, western red cedar, birch, aspen and black cottonwood. Woody undergrowth on the proposed game farm includes western snowberry, red osier dogwood, and alder. Herbaceous vegetation is primarily introduced grasses and forbs such as Timothy and red clover. There is a poorly developed riparian area within the proposed game farm that follows the intermittent drainage. Many of the deciduous trees and shrubs are associated with this drainage. The small wetland site in the intermittent drainage includes a small pool of open water and the surrounding soil is saturated. The herbaceous vegetation in this area is characteristic of moist areas.

Noxious weeds were present on the proposed game farm site. Spotted knapweed grows along the road to the residence and in some of the areas disturbed by recent logging, but it was not abundant or widespread. Canada thistle also grows in areas disturbed by recent logging.

WILDLIFE RESOURCES

There is no critical big game winter range or migration corridor through the proposed game farm area (Figure 3), however, the general area is used by a variety of big game and other wildlife species. The proposed game farm is located within year-long moderate to high density white-tailed deer habitat (up to 10-15 deer per square mile). Wild elk occur in the surrounding mountainous habitat and may pass through this area on occasion. These elk are associated with elk herds in the Middle and South Forks of the Flathead River. Due to the close proximity of the proposed game farm to occupied residences and a busy paved highway, it is unlikely that wild elk will normally tolerate this level of human disturbance. Moose occur along the Flathead River and also make use of the surrounding mountains, and may potentially occur in this area.



This area represents extremely good mountain lion habitat due the abundance of deer and elk in the surrounding mountains. Density of lions in this area is estimated at 1 adult or subadult lion to 6 square miles of land. This is a resident mountain lion population and will be expected to occur in the area on a year-long basis. This area also supports a sizable black bear population. Use of this area by bears will vary seasonally and between years; however, bear occupancy can occur on a year-round basis. Bears are expected to seasonally move through this area depending upon forage availability and in some years they may make considerable use of low elevation sites such as the proposed game farm site.

Bald eagles (federally-listed threatened species) are breeding residents, spring/fall migrants, and winter residents along the Flathead River. Eagles are known to nest along the Flathead River down stream from the game farm site, and formerly congregated in large numbers during fall upstream from the proposed game farm site. Peregrine falcons (endangered) are potentially migratory through this area but they are not known to nest in this area. The gray wolf and grizzly bear are two federally-listed (threatened) wildlife species occurring in the general area of the proposed game farm. Both these species are known to pass through the forested habitat surrounding the game farm.

ENVIRONMENTAL CONSEQUENCES

Only primary resources that have potential adverse effects from the Proposed Action of raising up to 60 elk on approximately 33.5 acres are summarized in this section. A detailed discussion of environmental consequences is contained in *Part II* of this EA (pp. 19-46).

LAND RESOURCES

The proposed elk ranch should have only minor impacts to land and soil resources. The primary impacts would be due to fence construction activities and trampling and compaction of the soil surface layers by the elk. These impacts can be mitigated by re-vegetating disturbed areas, maintaining a reasonable stocking rate, and managing use during periods of wet soil conditions.

WATER RESOURCES

Increased runoff and erosion could result from fence construction activities and ground disturbances by the game farm elk, particularly if the stocking density reaches 60 elk. Game farm elk fecal matter and nutrient-enriched water could affect the quality of groundwater and surface water in the vicinity of the site, particularly during snowmelt or major precipitation events. Seasonal flow in the intermittent drainage could experience increased turbidity as the elk reduce vegetation cover in the small wetland area in the north, Phase II enclosure and wallow in the water. However, a vegetated buffer zone in the intermittent drainage approximately 2,000 feet long separates the wetland area from the Flathead River.

VEGETATION RESOURCES

Productivity of the 33.5 acre site is not sufficient to support 60 adult elk on a year-long basis without substantial supplemental feed. Consequently, foraging activity by elk would be expected to alter the plant communities and productivity of the proposed game farm site. Productivity of the tame pasture may be decreased through constant year-long grazing. It is estimated that the average adult elk consumes about 11 pounds of forage each day and that annual forage consumption would be about 4,000 pounds of forage per adult animal. The game farm could support about 5 elk on a year-long basis, or it would meet about 8% of the forage requirements of 60 adult elk during the entire year. Based on the high stocking density of game farm elk (2 elk per acre) and the low productivity of this site, it is likely that some plants would be reduced in abundance or be eliminated. Weed species such as spotted knapweed and Canada thistle would normally increase in abundance under moderate grazing pressure, but due to proposed intensive grazing pressure these species would probably be grazed along with more palatable plants.

There would be no conversion of any game farm area to irrigated pasture or agricultural crops. Intensive year-long grazing proposed for this game farm would result in soil disturbance likely to promote the establishment of noxious weeds. Elk would be expected to wallow in the small wetland site and modify the vegetation in this area.

WILDLIFE RESOURCES

The proposed game farm would not include any perennial streams and would not likely impact any aquatic animals. The 33.5-acre enclosure may alter local movement of a few individual wild deer (or transitory elk), forcing them to reroute their daily movement around the approximately ¼-mile by ¼-mile exterior enclosure fence. This diversion of movement is within the range of normal daily movement of deer and would not force deer to move excessively through unfavorable habitat. However, deer moving through this area may be forced to walk adjacent to Highway 2. This could result in increased deer/vehicle collisions at this site.

There is a possibility that wild deer may enter the enclosure especially during periods of drifted snow or deep snow accumulation in the winter. Deer have also been documented to crawl under game proof fencing at sites dug by coyotes. The proposed game farm would displace a few deer from this area and influence their daily movements to a minor degree. Wild elk do pass through this area on occasion and may be attracted to the game farm, especially during the rut. If a wild elk or deer entered the game farm, it would likely be destroyed rather than released back to the wild. These impacts may affect individuals, but not populations. Wild animals that enter the game farm may be capable of exiting the facility on their own.

Mountain lions and black bears are expected to pass through this area and may be attracted to the game farm due to the concentration of game farm elk and/or the presence of elk feed. Lions and bears are capable of entering the enclosure and, although live capture and removal are possible, it is not without risks. This may affect individuals, but not populations. The attraction of lions and bears to the game farm may result in additional conflicts with humans surrounding the game farm.

Gray wolves and grizzly bears could potentially pass through this area and be attracted to the game farm elk. Wolves and bears are capable of digging under or climbing over the game fence. Live capture and removal of a trespassing wolf or bear is possible. However, this is not without risks to the animal, and the loss of a wolf and bear from the local populations in this area may be a cumulative impact to these species. In addition, bears that are chronic offenders may be purposely removed from the population either by lethal control, or by live capture and relocation to a zoo.

The high stocking density of elk in the proposed game farm would result in the loss of shrub cover, and deciduous trees would likely be girdled and eventually killed by the elk. The loss of deciduous trees and shrubs would result in a minor impact to some species of neotropical migrant birds. Management of the game farm may favor the removal of additional coniferous trees beyond what has already been removed by logging to open the canopy and promote increased herbaceous plant growth. This also would likely result in a minor impact to neotropical migrant birds. In addition, fast pursuit forest raptors may be killed by the game farm fence during pursuit of small avian prey. The proposed game farm is not likely to cause impacts to bald eagles and peregrine falcons.

There is a significant potential of game farm elk carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis, meningeal worms, or chronic wasting disease and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk or other wildlife. It is also possible diseases and parasites carried by wild elk could be introduced to game farm elk with equally severe impacts. Ingress of wild elk or deer would likely result in destruction of the trespassing animal(s), if they are discovered.

CUMULATIVE EFFECTS

Any action resulting in the loss of a trespassing gray wolf or grizzly bear might represent a cumulative impact to the local populations should other unavoidable man-caused mortality be high. Otherwise, cumulative effects from past, present, and reasonable foreseeable activities would be similar to those described for the Proposed Action.

EA CONCLUSION

MEPA and game farm statutes require FWP to conduct an environmental analysis for game farm licensing as described in the *Introduction* of this *Summary* section (p. 1). FWP prepares EAs to determine whether a project would have a significant effect on the environment. If FWP determines that a project would have a significant impact that could not be mitigated to less than significant, the FWP would prepare a more detailed EIS before making a decision.

Based on the criteria evaluated in this EA, an EIS would not be required for the Desert Mountain Ranch game farm. The appropriate level of analysis for the Proposed Action is a mitigated EA because all impacts of the Proposed Action have been accurately identified in the EA, and all identified significant impacts would be mitigated to minor or none.

MITIGATION MEASURES

The mitigation measures described in this section address both minor and significant impacts associated with the proposed Desert Mountain Elk Ranch Game Farm. FWP would require stipulations to mitigate all potentially significant impacts resulting from the Proposed Action. Potential minor impacts from the Proposed Action are addressed as mitigation measures that are strongly recommended to remain in compliance with state and federal environmental laws, but are not required. Non-compliance with water quality laws would result in enforcement actions initiated by the Montana Department of Environmental Quality.

REQUIRED STIPULATIONS

The following stipulations are imposed by FWP for the Desert Mountain Elk Ranch Game Farm and are designed to mitigate significant impacts identified in the EA to below the level of significance:

- (1) *Report ingress of any wild game animals or egress of game farm elk to the Montana FWP immediately. The report must contain the probable reason why or how ingress/egress occurred.*

This stipulation is imposed to mitigate potentially significant risk to wildlife posed by the proposed game farm. Risk to wildlife from contact between game farm animals and wild game is potentially significant due to the site being located in an area currently utilized by wild game. Information provided by the stipulation would also help both the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. This stipulation, in addition to existing FWP fencing and wildlife protection requirements, is expected to reduce the risk to wildlife to below significant.

- (2) *Install a single electrified strand of wire suspended from the outside of the game farm fence near the top of the fence to deter predators from entering the game farm. Verify operation of the electrified wire charger daily.*

This stipulation is imposed due to the high potential of entry into the game farm by bears, lions, and wolves. The electrified wire would reduce the chances of ingress by predators. Verifying operation of the charger would alert the game farm operators to shorting of the electrified wire potentially due to fence damage. If fence integrity or ingress/egress becomes a problem, adjustment of fence requirements to include double fencing, additional electrification, or increased height may become necessary.

- (3) *Remove trees within 20 feet of the proposed game farm fence on the inside of the enclosure and secure a 3/8-inch steel cable to the top of the fence to prevent excessive fence compression should a tree fall on it.*

This stipulation is imposed due to the considerable tree cover at the game farm and the presence of greater tree cover and larger trees on Forest Service land adjoining the south fence of the game farm.

RECOMMENDED MITIGATION MEASURES

The following recommended mitigation measures address minor impacts identified in the Desert Mountain Elk Ranch Game Farm EA for resources having the most potential affects from the Proposed Action:

Land Resources

- Re-vegetate soils disturbed by fence construction activities or the elk.
- Maintain a reasonable stocking rate within the game farm enclosure to minimize changes in soil structure and potential increases in runoff and erosion from disturbed ground. A "reasonable stocking rate" is defined on the first page of *Part II - Environmental Review* (p. 19); additional information regarding a reasonable stocking rate for the site is provided under *Part II -Section 4 (Vegetation)* of this EA (pp. 27-28).

Air Resources

- Dust management activities include spraying water on unpaved roads during the dry season, vegetating exposed ground where possible, protecting soil piles from wind erosion, and limiting ground disturbance to the area necessary to complete the job.
- Employ the following best management practices (BMPs) to reduce odor problems if they occur: (1) quickly incorporate waste into soil by plowing or discing; (2) spread waste during cool weather or in the morning during warm, dry weather; and (3) cover buried animal carcasses on the game farm, if any, with a minimum of 2 feet of soil and at a distance greater than 1-mile from any residence. These and other BMPs are described in "Guide to Animal Waste Management and Water Quality Protection in Montana".

Water Resources

- Maintain a reasonable stocking rate in the game farm area to mitigate potential impacts from runoff and fecal matter. Potential water quality impacts could also be minimized by disposing of dead animals and excess fecal material at a site isolated from surface water and groundwater (disposal must meet county solid waste regulations).
- For any areas having erosion and sedimentation problems, utilize BMPs where runoff could enter the intermittent drainage. The BMPs may include earth berms, straw bale dikes, vegetative buffer zones, and/or silt fences.

Vegetation Resources

- Monitor the proposed game farm site for invasion of noxious weeds and treat affected areas in a timely manner.
- Supplemental feed should be provided to the elk on a year-long basis to reduce the probability of overgrazing on the proposed game farm.

Wildlife Resources

- Store hay, feed, and salt away from exterior fences or enclosed in bear-resistant containers or buildings.
- Feed game farm animals at interior portions of the enclosure and not along the perimeter fence. Due to the presence of both grizzly and black bears in this area, it is extremely important to limit the exposure of elk feed to bears.
- Remove dead animals, excess fecal material, and waste feed from the game farm and deposit them at an approved site not likely to be used by humans, and domestic and wild animals.
- Inspect the exterior game farm fence on a regular basis and immediately after events likely to damage the fence to insure its integrity with respect to trees, burrowing animals, predators and other game animals.
- Remove snow on either side of the enclosure fence as required to prevent ingress and egress.

Noise

- Limit noisy construction activities to daylight hours and complete work as quickly as possible.
- Stock a minimal number of bulls to minimize bugling during the mating season.

Cultural Resources

- Stop work in the area of any observed archeological artifact. Report discovery of historical objects to the Montana Historical Society in Helena.

PART I. GAME FARM LICENSE APPLICATION INFORMATION

ENVIRONMENTAL ASSESSMENT CHECKLIST

Montana Fish, Wildlife & Park's authority to regulate game farms is contained in sections 87-4-406 through 87-4-424, MCA and ARM 12.6.1501 through 12.6.1519.

1. **Name of Project:** Desert Mountain Elk Ranch Game Farm

Date of Acceptance of Completed Application: July 22, 1998

2. **Name, Address and Phone Number of Applicant(s):**

Steve J. Kvapil and Barbara D. Wuertz
P.O. Box 7483
Kalispell, Montana 59901
(406) 387-4250

3. **If Applicable:**

Estimated Construction/Commencement Date: September 1998

Estimated Completion Date: December 31, 2000

Is this an application for expansion of existing facility or is a future expansion contemplated?

No future expansion is contemplated at this time.

4. **Location Affected by Proposed Action (county, range and township):**

Flathead County; approximately 33.5 acres

T31N R19W Section 28 SW¼ SW¼ and Section 29 SE¼ SE¼

5. **Project Size:** Estimate number of acres that would be directly affected that are currently:

(a) Developed:	(d) Floodplain..._____ acres
residential..... 3 _____ acres	
industrial..... _____ acres	(e) Productive:
	irrigated cropland..... _____ acres
(b) Open Space/Woodlands/Areas..... _____ acres	dry cropland..... _____ acres
	forestry..... 30.5 _____ acres
	rangeland..... _____ acres
(c) Wetlands/Riparian Areas..... _____ acres	other..... _____ acres

6. Map/site plan:

The following maps are included in the introductory summary of this EA:

- Figure 1:** Site Map
Figure 2: Land Use and Land Cover
Figure 3: Big Game Distribution

7. Narrative Summary of the Proposed Action or Project including the Benefits and Purpose of the Proposed Action:

FWP received an initial application dated June 22, 1998 from Steve Kvapil and Barbara Wuertz to construct the Desert Mountain Elk Ranch Game Farm in Flathead County, Montana (Kvapil and Wuertz, 1998). FWP personnel discussed several issues with the applicants and incorporated clarifications in a letter to the applicants dated August 19, 1998 (FWP, 1998). The proposed Desert Mountain Elk Ranch Game Farm (Figure 1) would be located immediately south of Coram, Montana. The applicants live within the perimeter of the proposed game farm site, which is crossed by a utility easement. The Proposed Action consists of two phases: Phase I consists of placing up to 15 elk on approximately 18 acres, and Phase II consists of adding up to 45 additional elk after enlarging the game farm by 15.5 acres. The entire game farm would therefore consist of up to 60 elk and 33.5 acres.

Phase I includes the quarantine and handling facilities and the pasture forming the southeast portion of the game farm (Figure 2). Phase II includes the west and north pastures. The purpose of the game farm is to provide breeding stock, meat and antler production. There would be no fee shooting by the public at the game farm (FWP, 1998). Elk initially released into the proposed game farm would come from the Sun River Game Farm in Vaughn, Montana; additional elk may be obtained from other game farms.

The applicants would sell and dispose of game farm elk in accordance with Montana game farm and disease control requirements stipulated in Montana statute and administrative rules. Fence construction would be in accordance with requirements of FWP under ARM 12.6.1503A, and proposed changes to these rules. Fencing would consist of 8-foot high, 6-inch mesh, high tensile big game fencing supported by 11-foot long, 2^{3/8}-inch steel pipe set 3 feet into the soil and spaced at 20 feet intervals. Corner posts would be 2^{7/8}-inch steel pipe set 3 feet into the soil and would be braced. Gates in and around the handling facility would be solid wood. The remaining gates would be 8 feet high and consist of a 2-inch diameter metal tubing frame with 6-inch mesh fencing. All gates would have no more than three inches of ground clearance and each would have one latching and one locking device.

The residential area and driveway would be fenced out of the game farm. Five gates would adjoin the residential area. The fence along the south side of the property adjoining U.S. Forest Service land would follow an old logging road. The fence would be installed on the north side of the road bed to exclude the road from the game farm. One gate would be located in this south fence at the utility easement. Access to the easement by utility crews would be controlled and occur only while the landfarm operators or a representative are at the site (Kvapil, 1998). One gate would also be located in the east fence of the north, Phase II pasture. The quarantine facility and handling pens would be constructed according to the standards and approval of the Montana

Department of Livestock (DoL).

8. Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction:

(a) Permits:

<u>Agency Name</u>	<u>Permit</u>	<u>Approval Date and Number</u>
Department of Livestock	approval of quarantine and handling facility	Pending

(b) Funding:

<u>Agency Name</u>	<u>Funding Amount</u>	<u>Approval Date</u>
none		

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

<u>Agency Name</u>	<u>Type of Responsibility</u>
Montana Department of Livestock	disease control
Montana Department of Environmental Quality (DEQ)	water quality, air quality waste management
Montana State Historical Preservation Office (SHPO)	cultural resources
Montana Department of Natural Resources and Conservation (DNRC)	water rights
Natural Resource Conservation Service (NRCS)	soil conservation
Flathead County Conservation District	stream crossings
U.S. Army Corps of Engineers (COE)	wetlands
Flathead County Weed Control District	weed control

9. List of Agencies Consulted During Preparation of the EA:

Montana Department of Livestock
Montana Department of Environmental Quality
Montana State Historical Preservation Office
Montana Department of Natural Resources and Conservation
U.S. Department of Agriculture, Natural Resource Conservation Service
Flathead County Conservation District

REFERENCES:

Steve J. Kvapil, 1998. Proposed game farm operator, personal communication with Chris Cronin, Maxim Technologies, Inc. on October 13, 1998.

Steve J. Kvapil and Barbara D. Wuertz, 1998. Application for the Desert Mountain Elk Ranch Game Farm. Dated July 22, 1998.

Montana Department of Fish, Wildlife & Parks (FWP), 1998. Letter to Steve J. Kvapil and Barbara D. Wuertz. Dated August 19, 1998.

PART II. ENVIRONMENTAL REVIEW

This section of the EA presents results of an environmental review of the proposed Desert Mountain Elk Ranch Game Farm (Proposed Action). The assessment evaluated direct and indirect impacts and cumulative effects of the Proposed Action on the following resources of the physical environment: land, air, water, vegetation, fish and wildlife; and the following concerns of the human environment: noise, land use, human health risk, community impacts, public services and taxes, aesthetics and recreation, and cultural and historical resources. Impacts were determined to fall in one of four categories: unknown, none, minor and significant. For the purposes of this EA, and in accordance with ARM 12.2.429 through 12.2.431, these terms are defined as follows:

EA DEFINITIONS

Cumulative Effects: Collective impacts on the physical and human environment of the Proposed Action when considered in conjunction with other past and present actions related to the Proposed Action by location or generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impacts statement evaluation, or permit processing procedures.

Unknown Impacts: Information is not available to facilitate a reasonable prediction of potential impacts.

Significant Impacts: A determination of significance of an impact in this EA is based on individual and cumulative impacts from the Proposed Action. If the Proposed Action results in significant impacts that can not be effectively mitigated, FWP must prepare an EIS. The following criteria are considered in determining the significance of each impact on the quality of the human environment:

- severity, duration, geographic extent and frequency of occurrence of the impact;
- probability that the impact would occur if the Proposed Action occurs;
- growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative effects;
- quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources or values;
- importance to the state and to society of each environmental resource or value that would be affected;
- any precedent that would be set as a result of an impact of the Proposed Action that would commit FWP to future actions with significant impacts or a decision in principle about such future actions; and
- potential conflict with local, state, or federal laws, requirements, or formal plans.

Reasonable Stocking Rate: The density of animals appropriate to maintain vegetative cover in pasture condition which minimizes soil erosion from major precipitation events and snowmelt. The methodology for determining reasonable stocking rate is presented under *Part II - Section 4 (Vegetation)* of this EA (pp. 27-28). Factors to consider in determining an overall reasonable stocking rate include vegetation type and density, ground slope, soil type, and precipitation.

PHYSICAL ENVIRONMENT

1. <u>LAND RESOURCES</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	Would the Proposed Action result in:	UNKNOWN	NONE	MINOR	SIGNIFICANT	
a. Soil instability or changes in geologic substructure?			X			
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?				X	Yes	1(b)
c. Destruction, covering or modification of any unique geologic or physical features?			X			
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X			

AFFECTED ENVIRONMENT:

The proposed Desert Mountain Elk Ranch Game Farm is located immediately south of residential properties in the townsite of Coram, Montana (Figure 2). The property is bordered on the west by commercial properties along Highway 2, on the south by National Forest land (Figure 1), and on the east by forested, private land. Highway 2 is the western gateway to Glacier National Park, which is located a few miles north of Coram. The Middle Fork of the Flathead River is located about 2,000 feet west of the western proposed fence line.

The proposed game farm lies on the northern slope of an east-west trending ridge and rises from an elevation of about 3,200 feet at the bottom of the ridge to about 3,400 feet midway up the slope at the National Forest boundary. The property is currently used for residential purposes on about 3 acres with the remaining acreage undeveloped forest land (90%) and tame pasture (10%). The steepest slopes at the site approach 15 degrees, but the majority of the slopes are long gentle runs of 5-10 degrees.

Topographic features in the vicinity of the site include the floodplain of the Middle Fork of the Flathead River, and rolling hills and pothole depressions characteristic of glacial deposits resulting from the late Wisconsin alpine glaciers which were present in the area (Johns, 1970, p. 7). Badrock Canyon, where the Middle Fork and South Fork of the Flathead River converge, is located approximately 2 miles southwest of the site. Most of the surrounding mountains are forested and managed by the Flathead National Forest.

Soil information was obtained from the Soil Survey of the Flathead National Forest Area, Montana (U.S.D.A. Forest Service, 1983). The soil survey was done at an Order III level and is suitable for planning land use and the development of resources. Two soil map units were identified on the proposed elk ranch property: Andeptic Cryoboralfs, silty till substratum, rolling (26C-7); and Dystric Eutrochrepts, till substratum (27-7).

Andeptic Cryoboralfs (26C-7) are present on glacial moraines with the lower soil layers formed in glacial till. These soils are present on the moderately sloping hill present on the southern half of the proposed

elk ranch. The silt loam surface layer of these soils is underlain by very gravelly silt loam that contains 35 to 60 percent rounded rock fragments. Road sediment hazard is rated as slight to moderate (U.S.D.A., 1983). These soils are mantled by volcanic ash influenced loess and tend to be very productive.

The Dystric Eutrochrepts (27-7) are present on the more level to gentle slopes at the base of the hill and adjacent to the residential area. These soils are present on kames and kettles or terraces with the lower soil members forming in glacial till. Soils and substrata contain 50 to 80 percent rounded rock fragments (U.S.D.A., 1983). These soils are mantled by volcanic ash influenced loess and are highly productive if soil surface layers are not displaced or removed. Road sediment hazard is rated as moderate (U.S.D.A., 1983).

PROPOSED ACTION:

- 1(b) The proposed elk ranch, which at full capacity would contain a maximum of 60 elk on 33.5 acres, should have only minor impacts to land and soil resources. The primary impacts would be due to fence construction activities and trampling and compaction of the soil surface layers if elk stocking rates exceed the carrying capacity of the land. These impacts can be mitigated by re-vegetating disturbed areas, maintaining a reasonable stocking rate, and managing use during periods of wet soil conditions.

NO ACTION:

Under the No Action Alternative, the current condition of the property is not expected to change.

CUMULATIVE EFFECTS:

The proposed permit area does not contain any unique or significant soil or land resources that would be lost due to the proposed land use change.

COMMENTS:

Required Stipulations: None

Recommended Mitigation Measures

- Re-vegetate soils disturbed by fence construction and the elk.
- Maintain a reasonable stocking rate within the game farm enclosure to minimize changes in soil structure and potential increases in runoff and erosion from disturbed ground. A "reasonable stocking rate" is defined on the first page of *Part II - Environmental Review* (p. 19); additional information regarding a reasonable stocking rate for the site is provided under *Part II -Section 4 (Vegetation)* of this EA (pp. 27-28).

REFERENCES:

Johns, Willis M., 1970. Geology and Mineral Deposits of Lincoln and Glacier Counties, Montana. Montana Bureau of Mines and Geology, Butte, Montana, Bulletin 79. 182 pages with maps.

U.S. Department of Agriculture, (U.S.D.A.) Forest Service, 1983. Soil Survey of the Glacier National Forest Area, Montana. Albin Martinson and William Basko, authors. U.S.D.A. Forest Service and Soil Conservation Service in Cooperation with Montana Agricultural Experiment Station.

PHYSICAL ENVIRONMENT

2. <u>AIR</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	Would the Proposed Action result in:	UNKNOWN	NONE	MINOR	SIGNIFICANT	
a. Emission of air pollutants or deterioration of ambient air quality?				X		Yes 2(a)
b. Creation of objectionable odors?				X		Yes 2(b)
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?			X			
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?			X			

AFFECTED ENVIRONMENT:

The proposed game farm is located adjacent to residential and commercial properties, and Highway 2 which serves as the main western gateway to Glacier National Park. This area is not classified for air quality attainment status (DEQ, 1997). Approximately ten neighboring residences are located within 500 feet of the proposed game farm's north fence.

PROPOSED ACTION:

- 2(a) Fence construction and road use may result in short-term minor increases in particulate matter in ambient air.
- 2(b) Minor odor problems may result from waste management practices in areas where elk concentrate to feed in the holding pasture. Depending upon wind speed and direction, residents adjacent to the proposed game farm may occasionally observe objectionable odors.

NO ACTION:

No impacts to air quality are expected to result from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

If dust and/or odor problems arise, mitigation measures can be implemented.

Required Stipulations: None

Recommended Mitigation Measures:

- Dust management activities include spraying water on unpaved roads during the dry season, vegetating exposed ground where possible, protecting soil piles from wind erosion, and limiting ground disturbance to the area necessary to complete the job.
- Employ the following best management practices (BMPs) to reduce odor problems if they occur: (1) quickly incorporate waste into soil by plowing or discing; (2) spread waste during cool weather or in the morning during warm, dry weather; and (3) cover buried animal carcasses on the game farm, if any, with a minimum of 2 feet of soil and at a distance greater than 1-mile from any residence. These and other BMPs are described in "Guide to Animal Waste Management and Water Quality Protection in Montana" (DEQ 1996).

REFERENCES:

Montana Department of Environmental Quality (DEQ), 1997. Montana Air Quality Non-Attainment Areas. Revised January, 1997.

Montana DEQ, 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

PHYSICAL ENVIRONMENT

3. <u>WATER</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
Would the Proposed Action result in:						
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X		Yes	3(a)
b. Changes in drainage patterns or the rate and amount of surface runoff?			X		Yes	3(a)
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?			X		Yes	3(f)
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?			X		Yes	3(f)
i. Violation of the Montana non-degradation statute?		X				
j. Effects on any existing water right or reservation?		X				
k. Effects on other water users as a result of any alteration in surface or groundwater quality?			X		Yes	3(f)
l. Effects on other water users as a result of any alteration in surface or groundwater quantity?		X				

AFFECTED ENVIRONMENT:

Runoff from the proposed game farm site flows north to an unnamed intermittent drainage which flows eastward to a ditch between Highway 2 and the west boundary of the site (Figure 2). The ditch ultimately discharges to the Flathead River which is located approximately 2,000 feet to the west.

A northwest-trending swale crosses the quarantine area (Figure 2) and a smaller swale crosses the east side the Phase I enclosure. Both swales are heavily vegetated and neither contains a stream channel. As a result, it appears that most precipitation onto the site infiltrates to groundwater or flows overland to

the intermittent drainage. A small wetland area (0.1 acre) is located in the intermittent drainage in the east Phase II pasture immediately downgradient of a culvert beneath the driveway to the Kvapil residence. This site includes a small pool of open water and the surrounding soil is saturated. The herbaceous vegetation in this area is characteristic of moist areas. No portion of the proposed game farm would lie in a 100-year floodplain (FEMA, 1984).

Potable water for the residence at the game farm site is obtained from the municipal water supply system. Stock water for the game farm elk would be obtained from the existing municipal supply to the site. Well records on-file with the DNRC (1998) indicate that there are 3 wells within a ¼-mile of the site and 20 wells within 1 mile. An additional well may be located at the neighboring residence located immediately north of the Phase I pasture (Kvapil, 1998). Wells in the area range from 40 to 120 feet deep, with static water levels ranging from 10 to 100 feet below ground surface (DNRC, 1998). The direction of groundwater flow in the site vicinity is unknown.

PROPOSED ACTION:

- 3(a) Increased runoff and erosion could result from fence construction activities and ground disturbances by the game farm elk, particularly if the stocking density reaches 60 elk. Seasonal flow in the intermittent drainage could experience increased turbidity as the elk reduce vegetation cover in the small wetland area in the north, Phase II enclosure and wallow in the water. However, a vegetated buffer zone in the intermittent drainage approximately 2,000 feet long separates the wetland area from the Flathead River.
- 3(f) Game farm elk fecal matter and nutrient-enriched water could affect the quality of groundwater and surface water in the vicinity of the site, particularly during snowmelt or major precipitation events. Several wells are located within ¼-mile of the site.

NO ACTION:

Current hydrologic conditions are not expected to change under the No Action Alternative.

CUMULATIVE EFFECTS:

The proposed game farm is located adjacent to commercial and residential properties in a predominantly rural, forested environment. The vicinity hosts existing populations of wild elk and other game animals. A population of game farm elk would not cause any cumulative effect on water resources.

COMMENTS:

The DEQ administers and enforces water quality laws (e.g., Clean Water Act and Montana Water Quality Act) relating to pollution from point and nonpoint sources. Facilities that qualify as "concentrated animal feeding operations" (CAFO) are considered point sources of pollution and may require permits under Title 75, Chapter 5, Part 6, MCA, and ARM 17.30.1330 (also see 40 CFR § 122.23 and Appendix B to Part 122). If vegetative cover is reduced significantly, the game farm operation could meet the definition of a "concentrated animal feeding operation" (CAFO) (ARM 17.30.1304(3)). If water containment structures are needed on the project site to control runoff and do not have the capacity for the 25-year, 24-hour storm, a CAFO permit must be obtained for the discharge. A CAFO permit, however, is not expected to

be required for the Desert Mountain Game Farm operation. Filling or dredging of any wetlands or water of the U.S. (e.g. culvert installation) may require a "404 Permit" from the U.S. Army Corps of Engineers.

Facilities that allow game farm animals access to surface water or that contaminate runoff to surface or groundwater may be considered nonpoint sources of pollution and are subject to the prohibitions against pollution and nondegradation of state water (Title 75, Chapter 5, Parts 3 & 6, MCA, and ARM 17.30.701 et seq.). Nonpoint sources of pollution are considered "nonsignificant" sources of degradation where reasonable land, soil, and water conservation practices are applied and existing and anticipated beneficial uses would be fully protected (ARM 17.30.716). Facilities that cause "significant" changes in water quality must apply to DEQ for authorization to degrade and undergo a nondegradation review to evaluate the nature of the discharge in relation to the quality of the receiving water.

Due to potential minor impacts identified above from increased runoff and elk fecal matter, several mitigation measures are recommended. Other water quality protection practices may be required by DEQ if it is determined that a CAFO permit is necessary. Refer to "Guide to Animal Waste Management and Water Quality Protection in Montana" (DEQ, 1996) and "Common Sense and Water Quality, A Handbook for Livestock Producers" (Montana Department of Health and Environmental Sciences, 1994) for further information on mitigation measures. The following management practices are recommended to minimize the risk of discharging pollutants to state water:

Required Stipulations: None.

Recommended Mitigation Measures:

- Maintain a reasonable stocking rate in the game farm area to mitigate potential impacts from runoff and fecal matter. Potential water quality impacts could also be minimized by disposing of dead animals and excess fecal material at a site isolated from surface water and groundwater (disposal must meet county solid waste regulations).
- For any areas having erosion and sedimentation problems, utilize BMPs where runoff could enter the intermittent drainage. The BMPs may include earth berms, straw bale dikes, vegetative buffer zones, and/or silt fences.

REFERENCES:

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

Montana Department of Health and Environmental Sciences (DHES), 1994. Common Sense and Water Quality, A Handbook for Livestock Producers. Water Quality Division. Helena, MT.

Montana Department of Natural Resources and Conservation (DNRC), 1998. Computer File Search of Water Rights. Obtained online from Internet. October 6, 1998.

Federal Emergency Management Agency (FEMA), 1984. Flood Insurance Rate Map for Flathead County, Community Panel Number 1145C.

Kvapil, Steve J. and Wuertz, Barbara D., 1998. Proposed game farm operators, written information from the proposed game farm application as well as personal communication with Chris Cronin, Maxim Technologies, Inc., Helena, Montana. July and October 1998.

PHYSICAL ENVIRONMENT

4. <u>VEGETATION</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
Would the Proposed Action result in:						
a. Changes in the diversity, productivity or abundance of plant species?			X		Yes	4(a)
b. Alteration of a plant community?			X		Yes	4(b)
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?			X		Yes	4(e)

AFFECTED ENVIRONMENT:

The proposed game farm is comprised of forested habitat (90%) and tame pasture (10%). The forested areas have various logging histories from old to current logging efforts. In general, most of the trees within the proposed game farm are young and less than 12-inches in diameter. Herbaceous vegetation productivity within the forested habitat is variable depending upon degree of canopy closure, and probably ranges from a couple hundred pounds per acre to an estimated at 1,000 pounds per acre in recently cleared sites. Productivity of the tame pasture is estimated at 1,000 to 1,500 pounds per acre. Average annual forage productivity of the game farm site is estimated at 19,500 pounds.

The forested habitat in this area is comprised of Douglas fir, lodgepole pine, western larch, Engelmann spruce, western red cedar, birch, aspen and black cottonwood. Woody undergrowth on the proposed game farm includes western snowberry, red osier dogwood, and alder. Herbaceous vegetation is primarily introduced grasses and forbs such as Timothy and red clover. There is a poorly developed riparian area within the proposed game farm that follows an intermittent drainage. Many of the deciduous trees and shrubs are associated with this drainage. There is also a small wetland site (0.1 acre) in the east Phase II pasture immediately downgradient of a culvert where the driveway to the Kvapil residence crosses the intermittent drainage. This site includes a small pool of open water and the surrounding soil is saturated. The herbaceous vegetation in this area is characteristic of moist areas.

Noxious weeds were present on the proposed game farm site. Spotted knapweed grows along the road to the residence and in some of the areas disturbed by recent logging, but it was not abundant or widespread. Canada thistle also grows in areas disturbed by recent logging.

PROPOSED ACTION:

- 4(a) The proposed action plans to place up to 60 adult elk on approximately 33.5 acres of land. Productivity of this site is not sufficient to support 60 adult elk on a year-long basis without substantial supplemental feed. Consequently, foraging activity by elk would be expected to alter the plant communities and productivity of the proposed game farm site. Productivity of the tame pasture may be decreased through constant year-long grazing. It is estimated that the average adult elk consumes about 11 pounds of forage each day and that annual forage consumption

would be about 4,000 pounds of forage per adult animal. The game farm could support about 5 elk on a year-long basis, or it would meet about 8% of the forage requirements of 60 adult elk during the entire year. Based on the high stocking density of game farm elk (2 elk per acre) and the low productivity of this site, it is likely that some plants would be reduced in abundance or be eliminated. Weed species such as spotted knapweed and Canada thistle would normally increase in abundance under moderate grazing pressure, but due to proposed intensive grazing pressure these species would probably be grazed along with more palatable plants.

- 4(b) There would be no conversion of any game farm area to irrigated pasture or agricultural crops. Intensive grazing by elk would likely alter natural plant communities. Elk would be expected to wallow in the small wetland site and modify the vegetation in this area.
- 4(e) Noxious weeds were apparent in disturbed areas during the site inspection of the proposed game farm site, intensive year-long grazing proposed for this game farm would result in soil disturbance; areas of bare soil tend to promote the establishment of noxious weeds and erosion

NO ACTION:

The No Action Alternative would likely result in the continuation of the present management of periodic logging.

CUMULATIVE EFFECTS:

There are no anticipated cumulative effects on vegetation resources associated with the proposed project.

COMMENTS:

Required Stipulations: None

Recommended Mitigation Measures

- Monitor the proposed game farm site for invasion of noxious weeds and treat affected areas in a timely manner.
- Supplemental feed should be provided to the elk on a year-long basis to reduce the probability of overgrazing on the proposed game farm.

PHYSICAL ENVIRONMENT

5. <u>FISH/WILDLIFE</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	Would the Proposed Action result in:	UNKNOWN	NONE	MINOR	SIGNIFICANT	
a. Deterioration of critical fish or wildlife habitat?			X		Yes	5(a)
b. Changes in the diversity or abundance of game species?			X		Yes	5(b)
c. Changes in the diversity or abundance of nongame species?			X			
d. Introduction of new species into an area?		X			Yes	5(d)
e. Creation of a barrier to the migration or movement of animals?			X		Yes	5(e)
f. Adverse effects on any unique, rare, threatened, or endangered species?			X		Yes	5(f)
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			X		Yes	5(g)
h. Increased risk of contact and disease between game farm animals and wild game?				X	Yes	5(h)

AFFECTED ENVIRONMENT:

The proposed 33.5-acre game farm is located on valley slopes above the Flathead River near Coram, Montana. The proposed game farm would be developed during two phases. The first phase places 10-15 elk on 18 acres and during the second phase, an additional 15.5 acres would be fenced to form two additional pastures. Upon completion of the project, up to 60 adult elk may be held at the game farm. The proposed game farm is comprised of forested habitat (90%) and tame pasture (10%). The forested areas have various logging histories from old to current logging efforts. Greater tree density and size are present on the U.S. Forest Service land adjoining the south fence of the game farm. Although there is no critical big game winter range or migration corridor through this area, this area is used by a variety of big game and other wildlife species.

The proposed game farm is located within year-long moderate to high density white-tailed deer habitat. Up to 10-15 deer per square mile may occur in this area (Kevin Coates, pers. comm., 1998). Wild elk occur in the surrounding mountainous habitat and may pass through this area on occasion. These elk would be associated with elk herds in the Middle and South Forks of the Flathead River. Due to the close proximity of the proposed game farm to occupied residences, and a busy paved highway, it is unlikely that wild elk would normally tolerate this level of human disturbance. Moose occur along the Flathead River and also make use of the surrounding mountains, and may potentially occur in this area.

This area represents extremely good mountain lion habitat due the abundance of deer and elk in the surrounding mountains. Density of lions in this area is estimated at 1 adult or subadult lion to 6 square

miles of land (Kevin Coates, pers. comm., 1998). This is a resident mountain lion population and would be expected to occur in the area on a year-long basis. This area also supports a sizable black bear population. Use of this area by bears will vary seasonally and between years; however, bear occupancy can occur on a year-round basis (Eric Wenum, pers. comm., 1998). Bears are expected to seasonally move through this area depending upon forage availability and in some years they may make considerable use of low elevation sites such as the proposed game farm site.

Bald eagles (federally-listed threatened species) are breeding residents, spring/fall migrants, and winter residents along the Flathead River. Eagles are known to nest along the Flathead River down stream from the game farm site (Gael Bissell, pers. comm., 1998), and formerly congregated in large numbers during fall upstream from the proposed game farm site. Peregrine falcons (endangered) are potentially migratory through this area but they are not known to nest in this area. The gray wolf and grizzly bear are two federally-listed (threatened) wildlife species occurring in the general area of the proposed game farm. Both these species potentially could pass through forested habitat surrounding the game farm.

PROPOSED ACTION:

- 5(a) Fencing of the proposed game farm would preclude a few white-tailed deer using this area, but it would not cause significant deterioration of any critical wildlife habitat either directly by excluding big game or indirectly by blocking a migration corridor. The proposed game farm would not include any perennial streams and would not likely impact any aquatic resources.
- 5(b) There is a possibility that wild deer may enter the enclosure especially during periods of drifted snow or deep snow accumulation in the winter. Deer have also been documented to crawl under game proof fencing at sites dug by coyotes. The proposed game farm would displace a few deer from this area and influence their daily movements to a minor degree. Wild elk do pass through this area on occasion and may be attracted to the game farm especially during the rut. If wild elk entered the game farm, it would likely be destroyed rather than released back to the wild. These impacts may affect individuals, but not populations. Mountain lions and black bears are expected to pass through this area and may be attracted to the game farm due to the concentration of game farm elk (primarily lion) or the presence of elk feed (primarily bear). Lions and bears are capable of entering the enclosure and although live capture and removal is possible, it is not without risks. This may affect individuals, but not populations. In addition, gray wolves and grizzly bears could potentially pass through this area and be attracted to the game farm elk. Wolves and bears are capable of digging under or climbing over the game fence. Live capture and removal of a trespassing wolf or bear is possible. However, this is not without risks to the animal, and the loss of a wolf and bear from the local populations in this area may be a cumulative impact to these species. In addition, bears that are chronic offenders may be purposely removed from the population either by lethal control, or by live capture and relocation to a zoo. The attraction of bears, lions, wolves, and coyotes could result in additional conflicts with humans surrounding the game farm.
- 5(c) The high stocking density of elk in the proposed game farm would result in the loss of shrub cover and deciduous trees would likely be girdled and eventually killed by the elk. The loss of deciduous trees and shrubs would result in a minor impact to some species of neotropical migrant birds. Management of the game farm may favor the removal of additional coniferous trees beyond what has already been removed by logging to open the canopy and promote increased herbaceous plant growth. This also would likely result in a minor impact to neotropical migrant birds.
- 5(e) The 33.5-acre enclosure may alter local movement of a few individual wild deer (or transitory elk), forcing them to reroute their daily movement around the approximately ¼-mile by ¼-mile exterior

enclosure fence. This diversion of movement is within the range of normal daily movement of deer and would not force deer to move excessively through unfavorable habitat. However, deer moving through this area may be forced to walk adjacent to Highway 2. This could result in increased deer/vehicle collisions near this site.

- 5(f) The proposed game farm is not likely to cause impacts to bald eagles and peregrine falcons. However, the game farm without adequate mitigations could potentially impact gray wolves and grizzly bears. The proposed game farm would provide a concentrated food source for wolves and bears. In addition, bears might also be attracted to feed supplied to game farm elk. However, this is not without risks to the animal, and the loss of a wolf and bear from the local populations in this area may be a cumulative impact to these species. In addition, bears that are chronic offenders may be purposely removed from the population either by lethal control, or by live capture and relocation to a zoo.
- 5(g) Conditions that might increase stress to wildlife include the creation of a small passage barrier by the proposed game farm fence and the loss of deciduous tree and shrub cover. In addition, fast pursuit forest raptors may be killed by the game farm fence during pursuit of small avian prey.
- 5(h) There is significant potential of game farm elk carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis, meningeal worms, or chronic wasting disease and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk or other wildlife. It is also possible diseases and parasites carried by wild elk could be introduced to game farm elk. The presence of numerous trees in close proximity to the game farm fence has the potential to compromise fence integrity and allow ingress/egress to occur in the event that a limb or trees falls on the fence. Ingress of wild elk or deer would likely result in the destruction of the trespassing animal(s).

The close proximity of residences and a busy highway and the low to moderate density of wild elk populations reduce the potential for contact between game farm elk and wild elk. The risk of disease being passed between game farm elk and wild animals would be further reduced by maintaining fence integrity and implementing the stipulations and mitigation measures listed below. Potential for disease transmission to wildlife from game farm elk is also mitigated through DoL disease testing requirements for most diseases (See Section 8 *Risk/Health Hazards*, item 8(b) and Section 13 - *Summary* for additional information about potential game farm diseases). In aggregate, these factors likely reduce the risk of disease transmission to minor.

NO ACTION:

No wildlife related impacts are expected to occur under the No Action Alternative. The area would continue to be used for residential housing and periodic logging.

CUMULATIVE EFFECTS:

Any action resulting in the loss of a trespassing gray wolf or grizzly bear might represent a cumulative impact to the local populations should other unavoidable man-caused mortality be high. Otherwise, cumulative effects from past, present, and reasonable foreseeable activities would be similar to those described for the Proposed Action.

COMMENTS:

Required Stipulations:

The following stipulations are imposed by FWP for the Desert Mountain Elk Ranch Game Farm and are designed to mitigate significant impacts identified in the EA to below the level of significance:

- (1) *Report ingress of any wild game animals or egress of game farm elk to the Montana FWP immediately. The report must contain the probable reason why or how ingress/egress occurred.*

This stipulation is imposed to mitigate potentially significant risk to wildlife posed by the proposed game farm. Risk to wildlife from contact between game farm animals and wild game is potentially significant due to the site being located in an area currently utilized by wild game. Information provided by the stipulation would also help both the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. This stipulation, in addition to existing FWP fencing and wildlife protection requirements, is expected to reduce the risk to wildlife to below significant.

- (2) *Install a single electrified strand of wire suspended from the outside of the game farm fence near the top of the fence to deter predators from entering the game farm. Verify operation of the electrified wire charger daily.*

This stipulation is imposed due to the high potential of entry into the game farm by bears, lions, and wolves. The electrified wire would reduce the chances of ingress by predators. Verifying operation of the charger would alert the game farm operators to shorting of the electrified wire potentially due to fence damage. If fence integrity or ingress/egress becomes a problem, adjustment of fence requirements to include double fencing, additional electrification, or increased height may become necessary.

- (3) *Remove trees within 20 feet of the proposed game farm fence on the inside of the enclosure and secure a 3/8-inch steel cable to the top of the fence to prevent excessive fence compression should a tree fall on it.*

This stipulation is imposed due to the considerable tree cover at the game farm and the presence of greater tree cover and larger trees on Forest Service land adjoining the south fence of the game farm.

Recommended Mitigation Measures:

The following game farm management practices would help to minimize impacts to free ranging wildlife species. Implementation of these mitigation measures, most of which are standard practices, is highly recommended and should be considered a form of mitigation.

- Store hay, feed, and salt away from exterior fences or enclosed in bear-resistant containers or buildings.
- Feed game farm animals at interior portions of the enclosure and not along the perimeter fence. Due to the presence of both grizzly and black bears in this area, it is extremely important to limit the exposure of elk feed to bears.
- Remove dead animals, excess fecal material, and waste feed from the game farm and deposit them at an approved site not likely to be used by humans, and domestic and wild animals.

- Inspect the exterior game farm fence on a regular basis and immediately after events likely to damage the fence to insure its integrity with respect to trees, burrowing animals, predators and other game animals.
- Remove snow on either side of the enclosure fence as required to prevent ingress and egress.
- Risk of disease transmission from domestic to wild animals can be minimized by routing disease surveillance of the domestic herd and maintenance of a game-proof fence.

REFERENCES:

Kevin Coates, 1998. Fish, Wildlife & Parks, Wildlife Biologist. Personal communication with Dr. Craig Knowles, FaunaWest Wildlife Consultants during October 1998.

Gael Bissell, 1998. Fish, Wildlife & Parks, Wildlife Biologist. Personal communication with Dr. Craig Knowles, FaunaWest Wildlife Consultants. April 1998.

Eric Wenum, 1998. Fish Wildlife & Parks, Bear and Mountain Lion Management Specialist. Personal communication with Doug Rogness, Maxim Technologies. October 1998.

HUMAN ENVIRONMENT

6. <u>NOISE EFFECTS</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	Would Proposed Action result in:	UNKNOWN	NONE	MINOR	SIGNIFICANT	
a. Increases in existing noise levels?			X		Yes	6(a)
b. Exposure of people to severe or nuisance noise levels?		X				

AFFECTED ENVIRONMENT:

Noise is produced by traffic and commercial businesses on Highway 2 adjoining the proposed game farm.

PROPOSED ACTION:

6(a) The Proposed Action would result in a minor short-term increase in existing noise levels from fence construction and land clearing. Elk bugling during the fall would likely be a new sound in Coram. Approximately 10 residences are located within 500 feet of the proposed game farm.

NO ACTION:

No impacts to existing noise levels are expected from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts on noise levels from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Due to noise currently generated along Highway 2, noise generated from the proposed game farm should not cause a problem. If noise concerns are raised, mitigation measures can be employed.

Required Stipulations: None

Recommended Mitigation Measures:

- Stock a minimal number of bulls to reduce bugling during the mating season.
- Limit noisy construction activities to daylight hours and complete work promptly.

HUMAN ENVIRONMENT

7. LAND USE <i>Would Proposed Action result in:</i>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the Proposed Action?		X				
d. Conflict with any existing land use that would be adversely affected by the Proposed Action?		X				
e. Adverse effects on or relocation of residences?		X				

AFFECTED ENVIRONMENT:

The vicinity hosts a small residential community with commercial establishments along Highway 2, cropland and pasture north of Coram, and forested land in the surrounding mountains (Figure 2). The area is not zoned for a specific use (Kountz, 1998) and is accessible to wild game.

PROPOSED ACTION:

The proposed game farm would introduce game farm elk to a site on the south side of Coram not previously used for ranching. Agricultural lands already border the north side of Coram. The Proposed Action may increase the economic value of the land for the purpose of maintaining a game farm.

NO ACTION:

If the proposed game farm is not approved, the site would likely continue to be used for residences and occasional logging.

CUMULATIVE EFFECTS:

No cumulative impacts on land use are expected from the proposed game farm project.

COMMENTS:

No mitigation measures are recommended.

REFERENCES:

Kountz, Steve, 1998. Flathead County Planner, personal communication with Chris Cronin, Maxim Technologies, Inc., Helena, Montana. October 14, 1998.

HUMAN ENVIRONMENT

8. <u>RISK/HEALTH HAZARDS</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
Would Proposed Action result in:						
a. Risk of dispersal of hazardous substances (including, but not limited to chemicals, pathogens, or radiation) in the event of an accident or other forms of disruption?		X				
b. Creation of any hazard or potential hazard to domestic livestock?			X		Yes	8(b)
c. Creation of any hazard or potential hazard to human health?			X		Yes	8(c)

PROPOSED ACTION:

8(b) Brucellosis and tuberculosis are potentially transmittable from elk to cattle and cattle to elk. CWD also has been detected in game farm elk but the mode of transmission is unknown and there is no test for this disease in living animals. The risk of disease being passed from game farm elk to domestic livestock would be minimal if the fence integrity is maintained and appropriate mitigation measures (see Section 5 - *Fish/Wildlife*) are followed. Potential for disease transmission to domestic livestock and wildlife from game farm animals is also mitigated through DoL disease testing requirements for most diseases. All animals to be placed on this game farm are required to be tested for tuberculosis and brucellosis at the time of import, purchase and/or transportation to the game farm. Each game farm is required to have access to an isolation pen (quarantine facility) on the game farm or approved quarantine plan to isolate any animals that are imported or become ill. The state veterinarian can require additional testing and place herds under strict quarantine should problems arise. Routine brucellosis and tuberculosis testing requirements for game farm animals offer a measure of surveillance that minimizes that risk. Failure to comply with these requirements is grounds for license revocation. (See Section 13 - *Summary* - for additional information about potential game farm diseases).

8(c) If tuberculosis or brucellosis were to be transmitted from game farm elk to wild elk and deer, hunters field dressing wild elk and deer would be subject to some risk of infection. Veterinarians and meat cutters working with diseased game farm animals are at risk of becoming infected with brucellosis or tuberculosis. Spread of a contagious wildlife disease may directly or indirectly (depending upon the nature of the disease) effect the human environment by reducing the number of wild deer and elk available for hunting or exposing hunters to diseases that are contagious to humans as well. The testing requirements for tuberculosis and brucellosis, however, protect the health of the public and wildlife in Montana.

Bears, wolves, and lions attracted to the game farm area by elk feed or the potential to prey on game farm elk could pose a minor risk to local residents. The possibility of humans encountering predators in this area already exists due to the wild lands surrounding the game farm. Stipulations and mitigation measures included in Section 5 (*Fish/Wildlife*; pp. 31-32) require an electrified

strand on the outside of the fence to deter predators and provide for proper handling of feed and animal wastes. These measures also reduce the likelihood that wild animals will frequent the game farm area.

NO ACTION:

Risk/health hazards would not occur from the No Action Alternative, other than those that may be associated with the existing land use.

CUMULATIVE EFFECTS:

No additional impacts from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Required Stipulations: None

Recommended Mitigation Measures:

Stipulations and mitigation measures included in Section 5 (*Fish/Wildlife*) are applicable to this section. In addition, risk of disease epidemic or heavy parasite infections among game farm elk can be minimized by maintaining a reasonable game farm elk stocking rate in relation to the enclosure size, management of manure in accordance with DEQ (1996) guidance, and adherence to disease testing requirements.

REFERENCES:

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

HUMAN ENVIRONMENT

9. <u>COMMUNITY IMPACT</u> Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				9(c)
d. Changes in industrial or commercial activity?		X				
e. Changes in historic or traditional recreational use of an area?		X				
f. Changes in existing public benefits provided by affected wildlife populations and wildlife habitats (educational, cultural or historic)?		X				
g. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?			X			9(g)

AFFECTED ENVIRONMENT:

The property owners will manage the game farm. It is anticipated that no employees would be hired as a result of the Proposed Action.

PROPOSED ACTION:

9(c) There would probably be a greater income return per acre than is currently achieved with traditional uses. While this may have an impact for the applicants, it would present a minor to no impact to the community. No impacts to the local infrastructure would occur under the Proposed Action.

9(g) The 33.5-acre enclosure may alter local movement of a few individual wild deer (or transitory elk), forcing them to reroute their daily movement around the approximately ¼-mile by ¼-mile exterior enclosure fence. The deer may be forced to walk adjacent to Highway 2, resulting in an increased potential for deer/vehicle collisions near this site.

NO ACTION:

No adverse impacts to the community would result from the No Action Alternative.

CUMULATIVE EFFECTS:

No cumulative impacts are anticipated on communities from operation of the proposed game farm.

COMMENTS:

No mitigation measures are recommended.

HUMAN ENVIRONMENT

10. PUBLIC SERVICES & TAXES Would Proposed Action result in:	Potential Impact				Can Impact be Mitigated	Comment Index
	Unknown	None	Minor	Significant		
a. A need for new or altered government services (specifically an increased regulatory role for FWP and DoL?			X			10(a)
b. A change in the local or state tax base and revenues?			X			10(b)
c. A need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				

AFFECTED ENVIRONMENT:

The applicant currently pays taxes associated with use of the site for a residence and occasional logging.

PROPOSED ACTION:

- 10(a) Approval of the game farm would increase time and expenses spent by FWP and DoL personnel inspecting, monitoring and responding to complaints about game farm operation or egress/ingress problems. Since neither FWP or DoL has the option of hiring additional employees to handle the increased workload potentially created by the game farm, activities of the current staff would need to be re-prioritized to meet the increased demand created by the game farm operation.
- 10(b) The applicant would have to pay additional taxes to the county general fund and local school district as well as a per capita tax. The County would collect a tax of \$18.88 and \$25.75 per head, depending on the age and sex of the elk (Faulkner, 1998). The State would also collect a per capita tax of \$12.00 per head (Schultz, 1997).

NO ACTION:

Under the No Action Alternative, the county and state would continue to receive personal property taxes for the residence and logging operations.

CUMULATIVE EFFECTS:

The increasing number of game farms in the Flathead Valley will require greater expenditure of resources by both FWP and DoL.

COMMENTS: No mitigation measures are recommended.

REFERENCES:

Mollye Faulkner, 1998. Flathead County Assessor's Office, personal communication with Chris Cronin, Maxim Technologies, Inc., Helena, MT. May 27, 1998.

Schultz, Luella, 1997. Department of Livestock, Animal Health Division. Memorandum to Alice Stanley, Maxim Technologies, Inc. October 27, 1997.

HUMAN ENVIRONMENT

11. <u>AESTHETICS/RECREATION</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	Would Proposed Action result in:	UNKNOWN	NONE	MINOR	SIGNIFICANT	
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?				X		11(a)
b. Alteration of the aesthetic character of a community or neighborhood?			X			
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X			

AFFECTED ENVIRONMENT:

The game farm site is predominantly forested and is bordered by a ¼-mile wide strip of National Forest on the south (Figure 1). Based on the presence of residences and Highway 2 in the immediate vicinity, existing hunting and recreational opportunities in the immediate area of the site are limited.

PROPOSED ACTION:

11(a) The visual character of the area may change as a result of the 8-foot high fence to be constructed around the perimeter of the game farm which would be visible from neighboring residences. The impact would be minor and most likely short term since fences are a common sight in the area.

Views of the game farm elk may result in cars stopping along Highway 2 or increased traffic on the road to the game farm. It is expected this impact would be minor and possibly short term. Local residents, out of curiosity, may drive by the game farm at the onset of its operation. As the novelty of the game farm operation decreased, so would traffic from local residents.

NO ACTION:

No adverse impacts are expected under the No Action Alternative.

CUMULATIVE EFFECTS:

No cumulative impacts are expected.

COMMENTS:

No mitigation measures are recommended.

HUMAN ENVIRONMENT

12. <u>CULTURAL & HISTORICAL RESOURCES</u>	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
Would Proposed Action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?	X					12(a)
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				

AFFECTED ENVIRONMENT:

A cultural resource file search was conducted by the State Historic Preservation Office (SHPO) during August, 1998. There is currently one previously recorded historic site in the area. The site (No. 24FH490) is a historic travel route. In addition, there have been two previous cultural resource inventories in the area. An *Examination of Highway Project #fk-2(3)142* was completed by Charline G. Smith in June 1978. The *Montana-Canada Fiber Optic Line, Glacier, Flathead, and Sanders Counties, Montana* was completed by Dennis E. Lewarch in November 1993.

PROPOSED ACTION:

12(a) According to SHPO (1998), because most of the previous survey work was conducted along Highway 2 outside the game farm boundaries, there is a possibility of unknown or unrecorded cultural features in the area.

NO ACTION:

No impacts to cultural resources are expected from the No Action Alternative unless other disturbances occur within the property.

CUMULATIVE EFFECTS:

No additional impacts from past, present and reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Required Stipulations: None.

Recommended Mitigation Measures:

If archeological artifacts are observed during construction of the game farm fence or from other activities, work should stop in the area and the discovery reported to:

Montana Historical Society
Historic Preservation Office
1410 8th Avenue; P.O. Box 201202
Helena, Montana 59620
(406) 444-7715

If work stoppage in the area containing observed artifacts is not possible, record the location and position of each object, take photographs and preserve the artifact(s).

REFERENCES:

Montana State Historic Preservation Office (SHPO), 1998. Letter from Philip Melton, SHPO to Daphne Digrindakis, Maxim Technologies, Inc., dated September 10, 1998.

SUMMARY

13. <u>SUMMARY</u> Would the Proposed Action, considered as a whole:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?				X	Yes	13(b)
c. Potentially conflict with the substantive requirements or any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts would be proposed?	X					13(d)
e. Generate substantial debate or controversy about the nature of the impacts that would be created?			X		Yes	13(d)

PROPOSED ACTION:

- 13(b) There is an undetermined but possibly significant potential of game farm elk carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis, meningeal worms, or chronic wasting disease and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk or other wildlife. Release of a contagious disease in the wild could severely impact native wildlife populations. It is also possible that disease and parasites carried by wild elk could be introduced to game farm elk. Ingress of wild elk or deer would likely result in destruction of the trespassing animals.

All game farm animals are required to be tested for brucellosis and tuberculosis (TB) prior to movement, importation, and/or sale in Montana. These requirements protect the tuberculosis-free and brucellosis-free status of livestock in Montana, and also protect the health of the public and Montana wildlife. All game farm animals are required to be inspected prior to movement or sale in Montana and the Department of Livestock (DoL) has trained veterinarians to perform inspections of the animals. At the time of inspection, an assessment of the health of the animal is made, in addition to the documentation of identification and ownership. Game farm animals that are imported into Montana must meet all DoL test requirements which include TB and brucellosis testing and must be accompanied by a health certificate which documents the health status of the animals being shipped. The health status includes an assessment for central nervous system symptoms and Johnes' disease. Within 30 days of arrival in Montana, each animal is inspected and tagged and marked by the Montana veterinarian who has been trained and acts in the capacity of a designated agent for DoL. There are currently no game farm animals on the proposed game farm, so each animal must meet DoL inspection and testing requirements prior to movement to the property.

Game farm elk are not more prone to infection than other domestic livestock. Implementation of BMPs that include routine anthelmintic treatment, waste disposal and pasture rotation will promote animal health within the herd. Cattle encountering the game farm enclosure should not result in a known risk to or from game farm animals because Montana is considered a brucellosis- and tuberculosis-free state.

Chronic wasting disease (CWD) is classified as a transmissible spongiform encephalopathy. The infectious agent for CWD is suspected to be associated with a protein fragment called a prion. The route of disease transmission at this time is unknown. Wyoming wildlife researchers have initiated a practice of removing animals that show clinical signs of the disease. This practice has been successful in preventing new cases of CWD for a period of up to 3 years (study is ongoing).

CWD has not been documented in Montana game farm animals or wildlife. The DoL has draft rules (published October 8, 1998) which restrict the importation of game farm animals from areas where CWD is endemic in wild elk and deer and from game farms where CWD has been diagnosed. Representatives of DoL have met with other state veterinarians, the game farm industry, and other interested parties to discuss additional measures to be implemented in Montana for CWD surveillance. The DoL has set a tentative date of January 1, 1999 to implement CWD surveillance measures on all Montana game farms. The proposed measures include routine mandatory surveillance of game farm animals for CWD. The DoL proposes to regulate all game farms consistently and will impose quarantines, restrict importation, and/or require additional disease testing of game farm animals when warranted.

13(d) The nature of impacts to wildlife from elk game farms is currently under debate in Montana and other states. The following issues are of the greatest concern:

- Disease transmission from game farm elk to wildlife is possible if the game farm elk are diseased and have an opportunity to come into contact with wild elk or deer.
- Hybridization of Montana's game species resulting from the ingress/egress of animals on game farms.
- Potential for wild animals to ingress into the game farm. Ingressing elk and deer are generally killed, typically by FWP wardens, to prevent potential disease transmittal. Ingressing mountain lions and black bears may be immobilized and removed.
- Theft of wild animals for financial gain on game farms.

These issues are particularly controversial when game farms block migration routes or consume significant areas of land historically utilized by wild game. Inadequate perimeter fencing and fence monitoring by the game farm operator can also lead to ingress/egress events and nose-to-nose contact between wild game and game farm animals. Because the proposed Desert Mountain Elk Ranch Game Farm area would not block big game migration routes or consume a significant portion of land utilized by wild game, the controversial nature of the Proposed Action is minor.

SUMMARY EVALUATION OF SIGNIFICANCE CRITERIA

- a. Does the Proposed Action have impacts that are individually minor, but cumulatively considerable? (A project may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)

Any action resulting in the loss of a trespassing gray wolf or grizzly bear might represent a cumulative impact to the local populations should other unavoidable man-caused mortality be high. Otherwise, cumulative effects from past, present, and reasonable foreseeable activities would be similar to those described for the Proposed Action.

- b. Does the proposed action involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?

Yes. An unlikely, but extremely hazardous event, should it occur, would be the spread of a disease or parasite from game farm elk to wild elk or deer. The risk of this event occurring can be reduced by following the mitigation measures listed in Sections 5 and 8. See Section 13 - *Summary* (pp. 45-46) for more information about potential disease issues.

- c. Description and analysis of reasonable alternatives (including the No Action Alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:

No Action Alternative: The No Action Alternative would avoid all potential impacts listed above. This site would likely be used for residential housing and periodic logging should the No Action Alternative be selected. The No Action Alternative would probably not result in exclusion of wildlife from this site.

- d. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

This section provides an analysis of impacts to private property by proposed restrictions or stipulations in this EA as required under 75-1-201, MCA, and the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The analysis provided in this EA is conducted in accordance with implementation guidance issued by the Montana Legislative Services Division (EQC 1996). A completed checklist designed to assist state agencies in identifying and evaluating proposed agency actions, such as imposed stipulations, that may result in the taking or damaging of private property, is included in Appendix A. Mitigation measures described in this section address both minor and significant impacts. FWP would require stipulations to mitigate all potentially significant impacts from the Proposed Action. Most potential minor impacts from the Proposed Action are addressed as mitigation measures that are strongly recommended, but not required.

REQUIRED STIPULATION #1

Report ingress of any wild game animals or egress of game farm elk to the Montana FWP immediately. The report must contain the probable reason why or how ingress/egress occurred.

Restriction on Private Property Use

This stipulation restricts the use of private property by effectively requiring the proposed game farm be monitored at least once daily for ingress or egress events. The stipulation is consonant with the current FWP requirement to report egress events immediately [ARM 12.6.1517(2)].

Alternatives

Do not report ingress and egress events to FWP immediately.

This stipulation would not adequately address the increased risk to wildlife. Ingressing wild animals must be detected immediately to prevent contact with wild game after contact with game farm animals.

Benefits from Imposing the Stipulation

This stipulation is imposed to mitigate predicted risk to wildlife posed by the proposed game farm. Information provided by the stipulation would help the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. This stipulation, in addition to existing FWP fencing and wildlife protection requirements, would effectively reduce the risk to wildlife.

Types of Expenditures the Stipulation Would Require

The stipulation to require immediate notice of ingress and egress events would not impose any additional expenditures beyond those necessary to report egress events in accordance with ARM 12.6.1517(2).

Stipulation's Effect on Property Values

None.

REQUIRED MITIGATION MEASURE #1

Install a single electrified strand of wire suspended from the outside of the game farm fence near the top of the fence to deter predators from entering the game farm. Verify operation of the electrified wire charger daily.

This mitigation measure is imposed due to the high potential of entry into the game farm by bears, lions, and wolves. The electrified wire would reduce the chances of ingress by predators. Verifying operation of the charger would alert the game farm operators to shorting of the electrified wire potentially due to fence damage. If fence integrity or ingress/egress becomes a problem, adjustment of fence requirements to include double fencing, additional electrification, or increased height may become necessary.

Restriction on Private Property Use

This stipulation would not restrict the use of private property.

Alternatives

Do not install an electrified strand on the outside of the game farm fence. Do not verify charger operation daily.

This stipulation would not adequately address the potentially significant risk of ingress by predators.

Benefits from Imposing the Stipulation

The stipulation reduces the chances that predators would enter the game farm.

Types of Expenditures the Stipulation Would Require

The stipulation would require approximately \$300 in equipment and materials, plus labor to install the wire.

Stipulation's Effect on Property Values

None.

REQUIRED MITIGATION MEASURE #2

Remove trees within 20 feet of the proposed game farm fence on the inside of the enclosure and secure a 3/8-inch steel cable to the top of the fence to prevent excessive fence compression should a tree fall on it.

This mitigation measure is imposed to due to the considerable tree cover at the game farm and the presence of greater tree cover and larger trees on Forest Service land adjoining the south fence of the game farm.

Restriction on Private Property Use

This stipulation would not restrict the use of private property.

Alternatives

Do not remove trees within 20 feet of the inside of the enclosure and do not secure a 3/8-inch steel cable to the top of the fence.

This stipulation would not adequately address the potentially significant risk of egress/ingress from the game farm.

Benefits from Imposing the Stipulation

The stipulation reduces the chances of ingress/egress from the game farm.

Types of Expenditures the Stipulation Would Require

The stipulation would require approximately 9,000 feet of cable at a maximum cost of approximately \$7,200, plus labor to install the cable. The value of trees removed would likely approximately equal the cost of logging. Verifying charger operation costs nothing.

Stipulation's Effect on Property Values

None.

PART III. NARRATIVE EVALUATION AND COMMENT

Wildlife use of the area and potential for through-the-fence contact with game farm animals (consider year-around use, traditional seasonal habitat use, and location of travel routes and migration corridors).

Through the fence contact: The proposed game farm is located in moderate to high density white-tailed deer habitat. Wild elk and moose on occasion may pass through this area. Wild elk would be expected to be attracted to the game farm by game farm elk. These wild elk intermingle with other elk within the drainages of the middle and south forks of the Flathead River, and transmission of diseases or parasites to wild elk would be a significant event. Nose-to-nose contact is most likely to occur between wild and game farm elk and unlikely to occur between game farm elk and wild deer. In addition, transitory wild elk may be attracted to game farm elk during the rut. Transmission of disease or parasites may occur during nose-to-nose contact, nose-to-body contact, and by contacting vegetation and feces along the fence line. Disease transmission may occur from wild ungulates to game farm elk and from game farm elk to wild ungulates. Diseases such as tuberculosis are highly contagious and can be easily transmitted between domestic and wild elk. See Section 13 - *Summary* (pp. 45-46) for more information about potential disease issues.

Potential for escape of game farm animals or ingress of wildlife (consider site-specific factors that could reduce the effectiveness of perimeter fences built to standards outlined in Rule 12.6.1503A, including steepness of terrain, winter snow depths/drifts, susceptibility of fences to flood damage, etc.).

Fence integrity: The proposed exterior fence would consist of 8-feet high, 6-inch mesh, high-tensile big game fencing; supported by 11-feet long, 2^{3/8}-inch steel pipe set 3 feet into the soil and spaced at 20-foot intervals. Corner posts and braces would be 2^{7/8}-inch pipe. Gates in and around the handling facility would be solid wood. The remaining gates would be 8 feet high and consist of a 2-inch diameter metal tubing frame with 6-inch mesh fencing. All gates would have one latching and one locking device.

The proposed game farm is located on moderately hilly terrain, level bottomlands and includes a single intermittent drainage. Overall, the site potential for fencing this pasture is moderate to good. The steepest slopes at this site approach 15 degrees while the majority of the slopes are long gentle runs of 5-10 degrees. The few short steep slopes should be shaped and graded with a small bulldozer to facilitate fencing. For the most part, where the fence crosses side hills it would follow existing old logging roads. A small bulldozer can also be used to develop a level road bed on the few side hills without an existing road bed. The fence should be set on the outside edge of such road cuts.

Despite a past history of logging, considerable tree cover remains on the game farm. In addition, the southern boundary would be adjacent to Forest Service lands with much greater tree cover and larger trees. The potential for fence damage by wind blown trees is high. Trees within 20 feet of the proposed game farm fence on the inside of the enclosure should be removed. In addition, a 3/8 steel cable should be secured to the top of the fence to prevent excessive fence compression should a tree fall on it.

The proposed enclosure site is located at an elevation of about 3,350 feet within high snowfall mountainous area. The expected snow levels during winter will vary greatly in relation to the amount of snowfall, and wind velocity and direction associated with storms passing through this area. This area has the potential to receive considerable snowfall in single storm events and cumulatively during the winter. Two to three feet of compacted snow on the ground can be expected in at least some winters. The proposed game farm is located within forested habitat and the potential for drifting is very low. During

winters of excessive snow cover, removal of snow along either side of the game farm fence may be required to prevent ingress/egress problems.

Proportion (%) of the total habitat area currently used by wildlife that will be enclosed or otherwise impacted.

The enclosure would exclude resident wild white-tailed deer from only a minor portion (<1%) of the area they presently have access to. The habitat at the proposed game farm site is widely available to deer in near by areas. The enclosure of 33.5 acres of low elevation forested habitat would not seriously effect wild deer or other wildlife species population viability in this area.

REFERENCES:

Coates, Kevin. MT Fish, Wildlife & Parks biologist, October 1998, pers. commun.

Bissell, Gael. MT Fish, Wildlife & Parks biologist, April 1998, pers. commun.

PART IV. EA CONCLUSION

1. Based on the significance criteria evaluated in this EA, is an EIS required? YES / NO

No. The appropriate level of analysis for the Proposed Action is a mitigated EA because:

- all impacts of the Proposed Action have been accurately identified in the EA; and
- all identified significant impacts would be mitigated to minor or none.

2. Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the Proposed Action, is the level of public involvement appropriate under the circumstances?

Upon completion of the Draft EA, a notice is sent to adjoining landowners, local newspapers, and other potentially affected interests, explaining the project and asking for input during a 21-day comment period which extends from November 4, 1998 until 5 pm November 25, 1998. The Draft EA is also available to the public at the following locations: FWP office in Kalispell at the address and phone number listed below, Flathead County Library at Kalispell and Columbia Falls, and through the State Bulletin Board System during the public comment period.

3. Duration of comment period if any: 21 days

4. Name, title, address and phone number of the Person(s) Responsible for Preparing the EA:

Fish, Wildlife & Parks

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Karen Zackheim, FWP Game Farm Coordinator
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1420 E. Sixth Avenue
Helena, MT 59620

Maxim Technologies, Inc.

Daphne Digrindakis, Project Manager
Doug Rogness, Hydrologist
Mike Cormier, Soil Scientist
Chris Cronin, Environmental Scientist
James Colegrove, GIS and Graphics

Fauna West Wildlife Consultants

Craig Knowles, Wildlife Biologist

APPENDIX A

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

The 54th Legislature enacted the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The intent of the legislation is to establish an orderly and consistent process by which state agencies evaluate their proposed actions under the "Takings Clauses" of the United States and Montana Constitutions. The Takings Clause of the Fifth Amendment of the United States Constitution provides: "nor shall private property be taken for public use, without just compensation." Similarly, Article II, Section 29 of the Montana Constitution provides: "Private property shall not be taken or damaged for public use without just compensation..."

The Private Property Assessment Act applies to proposed agency actions pertaining to land or water management or to some other environmental matter that, if adopted and enforced without compensation, would constitute a deprivation of private property in violation of the United States or Montana Constitutions.

The Montana State Attorney General's Office has developed guidelines for use by state agency to assess the impact of a proposed agency action on private property. The assessment process includes a careful review of all issues identified in the Attorney General's guidance document (Montana Department of Justice 1997). If the use of the guidelines and checklist indicates that a proposed agency action has taking or damaging implications, the agency must prepare an impact assessment in accordance with Section 5 of the Private Property Assessment Act. For the purposes of this EA, the questions on the following checklist refer to the following required stipulations:

Report ingress of any wild game animals or egress of game farm elk to the Montana FWP immediately. The report must contain the probable reason why or how ingress/egress occurred.

Install a single electrified strand of wire suspended from the outside of the game farm fence near the top of the fence to deter predators from entering the game farm. Verify operation of the electrified wire charger daily.

Remove trees within 20 feet of the proposed game farm fence on the inside of the enclosure and secure a 3/8-inch steel cable to the top of the fence to prevent excessive fence compression should a tree fall on it.

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PRIVATE PROPERTY ASSESSMENT ACT?

YES

NO

 X

1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?

 X

2. Does the action result in either a permanent or indefinite physical occupation of private property?

 X

3. Does the action deprive the owner of all economically viable uses of the property?

 X

4. Does the action deny a fundamental attribute of ownership?

 X

5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If the answer is **NO**, skip questions 5a and 5b and continue with question 6.]

5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?

5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?

 X

6. Does the action have a severe impact on the value of the property?

 X

7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? [If the answer is **NO**, do not answer questions 7a-7c.]

7a. Is the impact of government action direct, peculiar, and significant?

7b. Has government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?

7c. Has government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

Taking or damaging implications exist if **YES** is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if **NO** is checked in response to questions 5a or 5b.

If taking or damaging implications exist, the agency must comply with § 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.

